

In the Claims

Please cancel claims 25-28 without prejudice, and amend claims 1, 5-7, 9-11, 14, 15, 17, 18, 20, 21, and 29-38. Applicants reserve the right to pursue the original subject matter in a continuing application. Please also add new claims 39-73.

1. (Currently Amended) A switching module for electronic signal transmission comprising:

a first side with a plurality of connectors including a first group of three connectors and a second group of three connectors;

a second side with a plurality of connectors, including a first jack and a second jack, each of the jacks ~~jaek~~ having a spring contact tip conductor, a second tip conductor, a spring contact ring conductor, a second ring conductor and a shield conductor with a normal closed connection between the spring contact and second tip conductors and a normal closed connection between the spring contact and second ring conductors, each of the jacks ~~jaek~~ configured such that insertion of a plug opens the normal closed connections and electronically connects a ~~the~~ tip of the plug to the spring contact tip conductor, a ~~the~~ ring of the plug to the spring contact ring conductor, and a ~~the~~ shield of the plug to the shield conductor;

a first plurality of circuits connecting the shield conductor of each of the jacks ~~jaek~~ with a connector within each of the first and second groups ~~group~~ of first side connectors;

a plurality of two position switches having an open position and a closed position; and

a second plurality of circuits, each including one of the two position switches, one of the circuits linking the spring contact tip conductor of the first jack with the second tip conductor of the second jack, another of the circuits linking the spring contact ring conductor of the first jack with the second ring conductor of the second jack, another of the circuits linking the second tip conductor of the first jack with the second tip conductor of the second jack, and another of the circuits linking the second ring conductor of the first jack with the second ring conductor of the second jack.

2. (Original) The switching module of claim 1, wherein the first side connectors are card edge connectors.

3. (Original) The switching module of claim 1, wherein the two position switches are sliding switches.

4. (Original) The switching module of claim 1, wherein the plurality of first side connectors includes a third group of three connectors and a fourth group of three connectors, and the plurality of second side connectors includes a third jack and a fourth jack, the third and fourth groups of first side connectors and the third and fourth jacks being connected to each other in the same manner that the first and second groups of first side connectors and the first and second jacks are connected with each other.

5. (Currently Amended) The switching module of claim 1, wherein the module includes designation lenses, the second side connectors being accessible through an outer surface of the module, the outer surface having mounting slots located adjacent to the second side connectors, the outer surface of the module having a width, each of the designation lenses lens comprising:

- a first side and an opposing, spaced apart second side;
- a first end and an opposing, spaced apart second end;
- a front face and a rear face extending from the first side to the second side and from the first end to the second end;
- a first rear wall and a second rear wall extending rearward from the rear face along the first and second sides, respectively, and defining first and second rear mounting flats, respectively;
- mounting tabs extending rearward from the rear mounting flats;
- the rear face, the first and second rear walls of each of the designation lenses lens, and outer surface of the module cooperating to define a space for receiving an indicia related to the an adjacent second side connector;

the lenses each being formed of a transparent material to allow the indicia within the space to be seen through the lenses;

the lenses each being sized so that when mounted to the outer surface the lenses have a lens width are approximately the same width as the width of the outer surface.

6. (Currently Amended) The switching module of claim 1, wherein the circuitry including the two position switches, which connect each ~~jack pair of the first and second jacks with two the first and second~~ groups of first side connectors, can be configured in three switching states:

(a) all of the switches being open;

(b) the switch in the circuit connecting the spring contact tip conductor of the first jack with the second tip conductor of the second jack, and the switch in the circuit connecting the spring contact ring conductor of the first jack with the second ring conductor of the second jack being closed and ~~the a~~ remainder of the switches being open; and

(c) the switch in the circuit connecting the second tip conductor of the first jack with the second tip conductor of the second jack, and the switch in the circuit connecting the second ring conductor of the first jack with the second ring conductor of the second jack being closed and ~~a~~ the remainder of the switches being open.

7. (Currently Amended) The switching module of claim 1, wherein the first side connectors include a common ground connection and the second plurality of circuits including one of the plurality of two position switches ~~connect connects~~ the shield conductor of each of the jacks ~~jack~~ with the common ground connector on the first side.

8. (Original) The signal module of claim 1, wherein the plurality of circuits includes a circuit board extending in a first direction between a first face of the switching module and a second face of the switching module, the first side connectors located at the first face of the switching module, the second side connectors located at the second face of the connecting module, and the two position switches positioned on the circuit board.

9. (Currently Amended) A method of configuring an electronic signal transmission circuit, comprising:

providing a switching module for electronic signal transmission comprising:
a first side with a plurality of connectors including a first group of three connectors and a second group of three connectors;
a second side with an even number of connectors grouped into pairs, each pair of connectors including a first jack and a second jack, each of the jacks ~~jaek~~ having a spring contact tip conductor, a second tip conductor, a spring contact ring conductor, a second ring conductor and a shield conductor with a normal closed connection between the spring contact and second tip conductors and a normal closed connection between the spring contact and second ring conductors, each of the jacks ~~jaek~~ configured such that insertion of a plug opens the normal closed connections and electronically connects a ~~the~~ tip of the plug to the spring contact tip conductor, a ~~the~~ ring of the plug to the spring contact ring conductor, and a ~~the~~ shield of the plug to the shield conductor;
a plurality of two position switches having an open position and a closed position; and
a plurality of circuits, each including one of the two position switches, one of the circuits linking the spring contact tip conductor of the first jack with the second tip conductor of the second jack, another of the circuits linking the spring contact ring conductor of the first jack with the second ring conductor of the second jack, another of the circuits linking the second tip conductor of the first jack with the second tip conductor of the second jack, and another of the circuits linking the second ring conductor of the first jack with the second ring conductor of the second jack.

placing all the two position switches into an open condition so that each of the connectors ~~connector~~ on the first side is connected directly with a conductor within a ~~jack~~ one of the first and second jacks on the second side.

10. (Currently Amended) The method of claim 9, wherein the even number of connectors grouped into pairs includes at least a first pair, and wherein the two position

switch in the circuit connecting the second tip conductor of the first jack in the first a pair with the second tip conductor of the second jack in the first pair is closed, and the two position switch in the circuit connecting the second ring conductor of the first jack in the first pair and the second ring conductor of the second jack in first the pair is closed.

11. (Currently Amended) The method of claim 9, wherein the even number of connectors grouped into pairs includes at least a first pair, and wherein the two position switch in the circuit connecting the spring contact tip conductor of the first jack in a the first pair with the second tip conductor of the second jack in the first pair is closed, and the two position switch in the circuit connecting the spring contact ring conductor of the first jack of the first pair with the second ring conductor of the second jack of the first pair is closed.

12. (Original) The method of claim 9, wherein the two position switch in the circuit connecting the shield conductor of a jack with the ground connector on the first side is closed.

13. (Original) The method of claim 9, further comprising the steps of:
inserting the switching module into a chassis;
subsequently removing the switching module from the chassis;
switching at least one of the two position switches in the removed switching module; and
reinserting the switching module into the chassis.

14. (Currently Amended) An electronic signal transmission system comprising:
(a) a switching module for signal transmission including:
(1) a first side with a plurality of connectors including a first group of three connectors and a second group of three;
(2) a second side with an even number of connectors grouped into pairs, each pair of connectors including a first jack and a second jack, each jack of the jacks having a spring contact tip conductor, a second tip conductor, a spring contact

ring conductor, a second ring conductor and a shield conductor with a normal closed connection between the spring contact and second tip conductors and a normal closed connection between the spring contact and second ring conductors, each ~~jack of the jacks~~ configured such that insertion of ~~an~~ a plug opens the normal closed connections and electronically connects ~~the~~ a tip of the plug to the spring contact tip conductor, ~~the~~ a ring of the plug to the spring contact ring conductor, and ~~the~~ a shield of the plug to the shield conductor;

(3) a plurality of two position switches having an open position and a closed position; and

(4) a plurality of circuits, each including one of the two position switches, one of the circuits linking the spring contact tip conductor of the first jack with the second tip conductor of the second jack, another of the circuits linking the spring contact ring conductor of the first jack with the second ring conductor of the second jack, another of the circuits linking the second tip conductor of the first jack with the second tip conductor of the second jack, and another of the circuits linking the second ring conductor of the first jack with the second ring conductor of the second jack

(b) a connecting module including:

(1) a plurality of first side connectors which electronically link to the first side connectors of the switching module;

(2) a second side with a plurality of connectors for attaching to a plurality of cables; and

(3) a plurality of circuits electronically linking the first side connectors of the connecting module to the second side connectors of the connector module;

(c) a chassis holding the switching module and the connecting module adjacent to one another, wherein ~~each of the first side connector connectors~~ of the switching module is electronically connected to a corresponding first side connector of the plurality of first side connectors of the connecting module.

15. (Currently Amended) The electronic signal transmission system of claim 14, wherein the first side connectors of the switching module are card edge connectors and

the first side connectors of the connection connectors module are mounted in a slot adapted to interface with and electronically link, the slot being configured to electronically link the first side connectors of the connecting module with the first side connectors of the switching module.

16. (Original) The electronic signal transmission system of claim 14, wherein a plurality of switching modules may be connected to the connecting module.

17. (Currently Amended) The electronic signal transmission system of claim 16, wherein the chassis holds a plurality of connecting modules and a plurality of switching modules may be connected to each of the connecting module modules.

18. (Currently Amended) The electronic signal transmission system of claim 16, wherein designation lenses for receiving indicia are located on the second side of the switching modules adjacent to each jack of the jacks.

19. (Original) The electronic signal transmission system of claim 14, wherein the plurality of circuits includes a circuit board extending in a first direction between a first face of the switching module and a second face of the switching module, the first side connectors located at the first face of the switching module, the second side connectors located at the second face of the connecting module, and the two position switches positioned on the circuit board.

20. (Currently Amended) An electronic signal transmission module comprising:
a front defining an even number of jacks paired together, each jack of the jacks including tip, ring, and shield contact springs;
a rear with card edge connectors;
a circuit board with a first plurality of circuits electronically connecting the jack contact springs with the card edge connectors; and
a second plurality of circuits including a plurality of two position switches mounted on the circuit board which are electronically linked to the first plurality of

circuits, the second plurality of circuits connecting the tip and ring contact springs of each of the jacks paired together jack pair.

21. (Currently Amended) The electronic signal transmission module of claim 20, wherein designation lenses for receiving indicia are located on the front adjacent to each of the jacks jaek.

22. (Withdrawn)

23. (Withdrawn)

24. (Withdrawn)

25. (Cancelled)

26. (Cancelled)

27. (Cancelled)

28. (Cancelled)

29. (Currently Amended) A jack patching device comprising:
circuitry having first and second spring assemblies, each of the first and second spring assembly assemblies including a tip spring, a normal spring corresponding to the tip spring, a ring spring, and a normal spring corresponding to the ring spring; and
a switching switch device having a plurality of switch positions for changing a circuit configuration of the first and second spring assemblies the circuitry between a no normal configuration, a full normal configuration, and a half normal configuration.

30. (Currently Amended) The jack patching device of claim 29, further comprising an electrical connector electrically connected to the first and second spring assemblies.

31. (Currently Amended) The jack patching device of claim 30, wherein the switching switch device is electrically positioned between the electrical connector and the first and second spring assemblies.
32. (Currently Amended) The jack patching device of claim 31, wherein the electrical connector is electrically connected to the first and second spring assemblies by a circuit board, and wherein the switching switch device is mounted to the circuit board.
33. (Currently Amended) The jack patching device of claim 29, wherein the switching switch device includes a plurality of 2-position switches.
34. (Currently Amended) The jack patching device of claim 29, further comprising a jack body module, wherein the first and second spring assemblies and the switching switch device are carried by the jack body included as part of the module.
35. (Currently Amended) The jack patching device of claim 34, wherein the jack body module includes a front end and a rear end, the front end defining patch plug ports for accessing the first and second spring assemblies.
36. (Currently Amended) The jack patching device of claim 35, further comprising a rear connector positioned at the rear end of the jack body module, the rear connector being electrically connected to the first and second spring assemblies.
37. (Currently Amended) The jack patching device of claim 35, wherein the jack body module further includes a first side and a second side extending between the front end and the rear end, the switching switch device being positioned at one of the first and second sides of the jack body module.
38. (Currently Amended) A jack patching device comprising:

circuitry including first and second spring assemblies, each of the first and second
spring assembly assemblies including a tip spring, a normal spring corresponding to the
tip spring, a ring spring, a normal spring corresponding to the ring spring, ~~and a sleeve~~
~~ground spring; and;~~

the circuitry also including a first sleeve ground corresponding to the first spring
assembly and a second sleeve ground corresponding to the second spring assembly; and

a switching switch device having a plurality of switch positions for changing a
circuit configuration of the first and second spring assemblies the circuitry between an
independently-ground configuration and a commonly-ground configuration.

39. (New) The patching device of claim 29, wherein the patching device includes a first sleeve ground corresponding to the first spring assembly and a second sleeve ground corresponding to the second spring assembly, and wherein the switch device is operable to change the circuitry between an independently-ground configuration and a commonly-ground configuration.

40. (New) The patching device of claim 29, wherein the switch device includes a plurality of switches.

41. (New) The patching device of claim 40, wherein the switches are arranged in a bank.

42. (New) The patching device of claim 40, wherein the switches are DIP switches.

43. (New) The patching device of claim 29, further comprising a chassis and a module that removeably mounts within the chassis, the first and second spring assemblies being part of the module so as to be removeable from the chassis with the module.

44. (New) The patching device of claim 43, wherein the switch device is part of the module so as to be removeable from the chassis with the module.

45. (New) The patching device of claim 44, wherein the chassis includes a front side and a rear side, and wherein the module is removeable from the chassis through the front side of the chassis.
46. (New) The patching device of claim 38, wherein the switch device includes a plurality of switches.
47. (New) The patching device of claim 46, wherein the switches are arranged in a bank.
48. (New) The patching device of claim 46, wherein the switches are DIP switches.
49. (New) The patching device of claim 38, further comprising a chassis and a module that removeably mounts within the chassis, the first and second spring assemblies being part of the module so as to be removeable from the chassis with the module.
50. (New) The patching device of claim 49, wherein the switch device is part of the module so as to be removeable from the chassis with the module.
51. (New) The patching device of claim 50, wherein the chassis includes a front side and a rear side, and wherein the module is removeable from the chassis through the front side of the chassis.
52. (New) A patching module comprising:
a module housing including a front and a back;
first and second patch plug ports located at the front of the module housing;
circuitry having first and second spring assemblies carried by the module housing, each of the first and second spring assemblies including a tip spring, a normal spring corresponding to the tip spring, a ring spring, and a normal spring corresponding to the ring spring, the first spring assembly being accessible through the first patch plug port and the second spring assembly being accessible through the second patch plug port; and

a switch device for changing the circuitry between a no normal configuration, a full normal configuration, and a half normal configuration, the switch device being carried by the module housing.

53. (New) The patching device of claim 52, wherein the switch device includes a plurality of switches.

54. (New) The patching device of claim 53, wherein the switches are arranged in a bank.

55. (New) The patching device of claim 53, wherein the switches are DIP switches.

56. (New) The patching device of claim 52, further comprising fasteners for removably mounting the module housing to a chassis.

57. (New) A patching device comprising:

circuitry having first and second spring assemblies, each of the first and second spring assemblies including a tip spring, a normal spring corresponding to the tip spring, a ring spring, and a normal spring corresponding to the ring spring; and

means for switching the circuitry between a no normal configuration, a full normal configuration, and a half normal configuration.

58. (New) The patching device of claim 57, further comprising a module, wherein the first and second spring assemblies and the means for switching are included as part of the module.

59. (New) The patching device of claim 58, wherein the module includes a front end and a rear end, the front end defining patch plug ports for accessing the first and second spring assemblies.

60. (New) The patching device of claim 57, wherein the patching device includes a first sleeve ground corresponding to the first spring assembly and a second sleeve ground corresponding to the second spring assembly, and wherein the means for switching is operable to change the circuitry between an independently-ground configuration and a commonly-ground configuration.

61. (New) The patching device of claim 57, further comprising a chassis and a module that removeably mounts within the chassis, the first and second spring assemblies and the means for switching being part of the module so as to be removable from the chassis with the module.

62. (New) The patching device of claim 57, further comprising a module having a module housing, the module housing including a front end having patch plug ports, the first and second spring assemblies and the means for switching being mounted to the module housing.

63. (New) A patching module comprising:
a module housing including a front and a back;
first and second patch plug ports located at the front of the module housing;
circuitry having first and second spring assemblies carried by the module housing,
each of the first and second spring assemblies including a tip spring, a normal spring
corresponding to the tip spring, a ring spring, and a normal spring corresponding to the
ring spring, the first spring assembly corresponding to the first patch plug port, and the
second spring assembly corresponding to the second patch plug port; and
the circuitry further including a grouping of contacts that provide electrical
connection locations for changing the circuitry between a no normal configuration, a full
normal configuration, and a half normal configuration, the grouping of contacts being
carried by the module housing.

64. (New) The patching device of claim 63, further comprising switches for selectively providing electrical connections between the electrical connection locations provided by the contacts.

65. (New) The patching device of claim 64, wherein the switches include 2-position switches.

66. (New) A patching device comprising:
a chassis;
a module removeably mountable to the chassis, the module including:
a) first and second patch plug ports;
b) circuitry having first and second spring assemblies, each of the first and second spring assemblies including a tip spring, a normal spring corresponding to the tip spring, a ring spring, and a normal spring corresponding to the ring spring, the first spring assembly being accessible through the first patch plug port and the second spring assembly being accessible through the second patch plug port; and
c) a switch device for changing the circuitry between a no normal configuration, a full normal configuration, and a half normal configuration.

67. (New) The patching device of claim 66, wherein the switch device includes a plurality of switches.

68. (New) The patching device of claim 67, wherein the switches are arranged in a bank.

69. (New) The patching device of claim 67, wherein the switches are DIP switches.

70. (New) The patching device of claim 66, further comprising fasteners for removeably mounting the module to the chassis.

71. (New) A patching device comprising:

a chassis;

a module removeably mountable to the chassis, the module including:

- a) first and second patch plug ports;
- b) circuitry having first and second spring assemblies, each of the first and second spring assemblies including a tip spring, a normal spring corresponding to the tip spring, a ring spring, and a normal spring corresponding to the ring spring, the first spring assembly corresponding to the first patch plug port, and the second spring assembly corresponding to the second patch plug port; and
- c) a grouping of contacts that provide electrical connection locations for changing the circuitry between a no normal configuration, a full normal configuration, and a half normal configuration.

72. (New) The patching device of claim 71, further comprising switches for selectively providing electrical connections between the electrical connection locations provided by the contacts.

73. (New) The patching device of claim 72, wherein the switches include 2-position switches.